

Forum: Environmental Committee

Issue #EV-01: The Question of Overfishing

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Introduction

Our oceans are essential for humanity's existence. However, overfishing is causing critical biodiversity loss in our marine ecosystems. Overfishing is indiscriminate and excessive fishing in a body of water. It does not let species reproduce at a rate that they can sustain their population numbers, often resulting in extinction.

According to the World Wide Fund for Nature (WWF), in the last 50 years overfishing has globally increased by three times, currently threatening the balance in our oceans. Overfishing and bycatch (unwanted sea creatures caught during fishing) go hand in hand. The increase of bycatch every day worries experts, as its effects damage eco-stability and oceanic balance.

Issue Overview

Causes

Overfishing is fully generated by humans, as we assert control over every portion of the oceans and we are permanently destroying ecosystems just for a fast economic profit. Lack of governance and difficulty regulating illegal fisheries are chief reasons for the increase of overfishing. Tobias Erhardt, a researcher at the Alfred Wegener Institute for Polar and Marine Research in Germany, claims that “the effect of openness on the level of overuse of fish species depends on the relative level of governance” (Erhardt, 2018), letting us know that opening trade works in countries with fragile legislation about fisheries in their Exclusive Economic Zones. However, it has not been proven to have an effect on strict governance nations.

In addition to international trade, lack of consciousness might generate social passiveness leading to no political action. From the ecosystem point of view, popular definitions of overfishing do not contemplate their destruction. Marine Ecosystem Analysis Professor at the University of Massachusetts, Steven Murawski proposed a remodelling in the concept of overfishing as “they do not provide direct guidance on issues such as biodiversity, serial depletion, habitat degradation, and changes in the food web” (2000). Disregarding important effects of overfishing causes people to think it's not as severe as it actually is.

Consequences

Through excessive indiscriminate fishing many times marine food webs get altered. The trophic balance in marine ecosystems is triggered by the lack of biodiversity caused by overfishing. Around 30% of commercial fish stocks are overfished (FAO, 2014). Fishing practices like bottom gear are also extremely destructive to ecosystems, leaving its inhabitants with no shelter or food. Furthermore, these overfishing practices can negatively affect water sedimentation, leaving terrains in almost inhospitable conditions for years (Coleman & Williams, 2002).

Most of the time, not every species caught is needed, so the excessive removal of a single species from an ecosystem takes place. This event can lead to trophic catastrophes. In the Caribbean, sponge predators were overfished intensively. This resulted in sponges taking over reef-building corals (Loh et al, 2015). Approximately 50 percent of the world's oxygen is produced by coral reefs (Movement, 2022), so it is essential to protect marine ecosystems from predatory species.

Bascompte et al. (2005) claimed that “the stability of ecological communities largely depends on the strength of interactions between predators and their prey”. The elimination of any of these species will have effects on the food web. Nevertheless, T.R Parsons (2003), from the Department of Oceanography, University of British Columbia, Vancouver, proved that the fact that fisheries are excessively removing predatory species from the sea is inducing lifelong changes in marine ecosystems.

Relevant UN Treaties and Global Perspective

Internationally, it is believed that the conservation of oceans is key. Peter Thomson (2022), United Nations (UN) Special Envoy for the Ocean, gave a speech for the World Trade

Organisation (WTO) in which he talked about pollution and fisheries and said they “are both very fixable” (min: 0:37 - 0:39) and emphasised on how the abolition of illegal fisheries would be achievable by 2030. The UN has made clear how subsidies to illegal fisheries shall stop, but also recognises the lack of incentives for a sustainable option (Global Response to Overfishing, 2022).

Confirming that fisheries subsidies are harmful, a study from the WWF (2019) claims that they just lead to bigger fishing fleets. In addition to ecosystem wrecking and biodiversity loss, local fishermen get lower incomes as a result of the drop in productivity of their fisheries while these subsidies are operative. Therefore, local fishermen are suffering the harsh consequences of overfishing on a daily basis. According to Sall, a fisherman from Senegal, “local fishermen are increasingly coming back with empty or nearly empty nets” (The Pew Charitable Trusts, 2019, p.8). This generates increasing worries for future generations of fishermen.

Additionally, international environmentalist campaigns are constantly operating across the globe to fight against overfishing and promote eco-sustainability. “Responsible Fishing” by Oceana is a campaign started in October 2009 by several nonprofit organisations in the US and since then has aimed to establish science-based catch limits to assure the balance of the ecosystem (Oceana, 2021).

Environmentalists promote methods such as TURF reserves (Territorial Use Rights for Fishing reserves). This is a methodology that has been established to help fishing communities and marine ecosystems fight against overfishing. They consist of the division of nearshore waters in two main parts, the TURF and the reserve. In the TURF a defined group of local fishermen are given exclusive rights to access and fish. The Reserve is an area where no fishing is allowed at all. In the execution of this idea it is aimed at local fishermen to work together with authorities to keep the reserve protected, as they understand that it is key to the future of their jobs and coming generations of fishermen. The benefit gained from this is mostly a reproductive one since the habitat is protected so that adult fish can reproduce in a safe ecosystem. After some time adult fish will eventually leave and enter the TURF where they will be fished (Rare, 2016).

Possible Solutions

A possible solution could be increasing social consciousness on the issue. This would have the

aim to lower the demand for fish that are not sustainably fished. “Dolphin Safe” styled sticker labels and logos for companies already do exist, so implementing those mechanisms in a more effective way can act as a solution (Jaquet et al., 2011). Even though this might not be the best course of action, as it depends fully on citizens’ responsibility, it will generate a positive impact.

Also, the TURF reserve method could be a possible course of action. This method ideally would help to abolish overfishing fastly however TURF reserves “must be designed to meet the unique biological, social and economic characteristics (...) of a given locality” (Fishery Solutions Center, 2017, p.2). Nowadays this methodology cannot be implemented worldwide with ease but with expected modifications and redesigns of TURF reserves it might be the best solution at hand.

Conclusion

Marine ecosystems are succumbing to the irresponsible practice of overfishing. It definitely is a major threat to marine ecosystems and needs to be substituted with more eco-friendly fishing techniques to avoid the terrible consequences that overfishing will have like biodiversity loss and ecosystem destruction leading to trophic catastrophes. The fact that overfishing still exists is worrying and must be changed as time to revert it is scarce and gets shorter everyday. Environmentalists taking a leading role is contributing to solve the issue but it clearly is not enough, this needs to worry everybody as oceanic balance is put at risk.

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